

Decoding Microproteins-From Basic Biology to Biotechnological Innovations

Day 1: Monday 14/09/2026

8:45-9:00	Opening
Session 1	
9:00-9:30	Gisela Storz (NIH, United States) "Mechanisms of microprotein action"
9:30-10:00	Julie Aspden (University of Leeds, United Kingdom) "What features contribute to translational preference of microprotein encoding transcripts"
10:00-10:30	Anne Lopes (Université Paris-Saclay, France) "Emergence of microproteins and de novo genes from noncoding DNA"
	<i>Break (30 min)</i>
Session 2	
11:00-11:30	Brendan Miller (Salk Institute for Biological Studies, United States) "Microproteins Hiding in Plain Sight: From Dark Proteome to Functional Biology"
11:30-12:00	Claire McWhite (The University of Arizona, United States) "Alternative proteoforms and proteoform-dependent assemblies in humans and plants"
12:00-12:30	Cynthia Sharma (University of Würzburg, Germany) "Small proteins in stress response and virulence of pathogenic Epsilonproteobacteria"
12:30-13:30	<i>Lunch + poster session</i>
Session 3	
13:30-14:00	Ami S. Bhatt (Stanford Medical School, United States) "A New Molecular Vocabulary for Host-Microbe Communication"
14:00-14:30	John Prensner (University of Michigan Medical School, United States) "Next steps for the detection and characterization of the cancer dark proteome"
14:30-15:00	Klára Hlouchová (Charles University, Czech Republic) "Learning from random sequence space"
15:00-16:00	<i>Coffee + poster session</i>
Session 4	
16:00-16:30	Juan Pablo Couso (Centro Andaluz de Biología del Desarrollo, Spain) "Enhanced translation of small ORFs provides resilience to stress"
16:30-17:00	Arne Elofsson (Stockholm University, Sweden) "Towards a complete human interaction map"
17:00-17:30	Matthias Mann (Max Planck Institute of Biochemistry, Germany) "MS-scan modes and algorithms to explore the deep and dark proteome"

Arrival to bildmuseet at 18h, visit for 1h and dinner at 19h

Day 2: Tuesday 15/09/2026

Session 5

9:00-10:00
(10+2 per
speaker)

Amelie Stein (University of Copenhagen, Denmark)

"Frontiers of modelling miniprotein interactions"

Iker Valle Aramburu (Umeå University, Sweden)

"Exploring the dark proteome in fungi and host-pathogen interactions"

Mar Albà (Hospital del Mar Research Institute, Spain)

"Emergence of microproteins throughout evolution"

Simon Elsässer (Freiburg University, Germany)

"A deep dive into microprotein interactomics"

Stephan Wenkel (Umeå University, Sweden)

"Plant Microproteins"

10:00-10:30

José Luis Riechmann (Centre for Research in Agricultural Genomics, Spain)

"Short open reading frame-encoded peptides in Arabidopsis: the plant non-conventional peptidome"

Break (30 min)

Session 6

11:00-11:30

Anne-Ruxandra Carvunis (ETH Zürich, Switzerland)

"from scratch to function: how microproteins promote evolutionary innovation"

11:30-12:00

Maria Abad (Altos Labs, United Kingdom)

"The Adaptive Microproteome: How Stress-Induced Microproteins Shape Cellular Plasticity"

12:00-12:30

Lena Ho (A*STAR's Institute of Medical Biology, Singapore)

"Towards a (more) Comprehensive Understanding of Microproteins in Mitochondrial Metabolism"

12:30-13:30

Lunch

Session 7

13:30-14:00

Cyril Zipfel (University of Zürich, Switzerland)

"Roles and perception mechanisms of plant stress-regulated secreted signaling peptides"

14:00-14:30

Nikos Vakirlis (Hellenic Pasteur Institute, Greece)

"Evolution of antimicrobial peptide novelty and diversity in metazoa"

14:30-15:00

Michal Bassani-Sternberg (Ludwig Institute for Cancer Research, United States)

"Shared HLA-I-presented microproteins and non-canonical peptides linked to transposable element activation in ovarian cancer"

15:00-15:30

Dek Woolfson (University of Copenhagen, Denmark)

"From peptides to proteins to new functions by design"

Break (30 min)

Session 8

16:00-16:30

Patrick Bryant (Stockholm University, Sweden)

"Beyond binders: design of functional next-generation peptides"

16:30-17:00

Owen Rackham (University of Southampton, United Kingdom)

"A data-driven expansion of the smORF universe"

17:00-17:30

Jonathan Weissman (MIT, Whitehead Institute for Biomedical Research, United States)

Day 3: Wednesday 16/09/2026

Session 9

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| 9:00-9:30 | Erich Bornberg-Bauer (University of Münster, Germany)
“Why de novo protein coding genes live fast, die young and only the long survive” |
| 9:30-10:00 | Petra van Damme (Ghent University, Belgium)
“From Small Translons to Function: Deciphering Bacterial Microproteomes” |
| 10:00-10:30 | Ylva Ivarsson (Uppsala University, Sweden)
“Limited Structure, Exposed Motifs, and Potentially Expanding Functions” |

Break (30 mins)

Session 10

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| 11:00-11:30 | Jean-Philippe Combier (Centre national de la recherche scientifique, France)
“IA-based identification of peptides inhibiting protein activities ” |
| 11:30-12:00 | Jennifer Zanet (Centre de Biologie Intégrative, France)
“ Functions of microproteins in Drosophila reproduction” |
| 12:00-12:30 | Valerie Tornini (University of California, Los Angeles, United States)
“Emergence of microproteins in vertebrate neurodevelopment” |
| 12:30-13:30 | Lunch |

Session 11

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| 13:30-14:00 | Norbert Hübner (Max-Delbrück-Center for Molecular Medicin, Germany)
"Investigating function of emerging microproteins using CRISPR and PERTURB-SEQ screens" |
| 14:00-14:30 | Thomas Martinez (University of California, Irvine, United States)
"Regulation of Ribosome Biogenesis by a Disordered Nucleolar Microprotein" |
| 14:30-15:00 | Sonia Chothani (A*STAR Genome Institute of Singapore, Singapore)
TBD |

Break (30 mins)

Session 12

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| 15:30-16:00 | Sarah Slavoff (Yale University, United States)
"Biochemical and functional characterization of human microproteins" |
| 16:00-16:30 | Sebastiaan van Heesch (Princess Maxima Center for Pediatric Oncology, The Netherlands)
“Microproteins in pediatric cancer” |
| 16:30-16:45 | Closing |